

Date: Fri, 28 Oct 94 17:31:27 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: List
Subject: Info-Hams Digest V94 #1169
To: Info-Hams

Info-Hams Digest Fri, 28 Oct 94 Volume 94 : Issue 1169

Today's Topics:

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Listserver Info wanted
low power fm short range xmitter
orbs$301.1of2.amsat
orbs$301.2l.amsat
orbs$301.2of2.amsat
PGP-Signatur in Packet Radio
US Repeater Logic
Wayne Green, unfailing clear thinker? NOT!

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Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available (by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text herein consists of personal comments and does not represent the official policies or positions of any party. Your mileage may vary. So there.

Date: Thu, 27 Oct 1994 23:56:36 GMT
From: jplll@vectorbd.com (Jim Lill)
Subject: Listserver Info wanted

I'm looking for info on listservers that might be of interest to hams.
Please include info on how to subscribe!

So far, I have nos-bbs, grp, mars

TIA - Jim

—

Jim Lill / Vector Board BBS \
jpll@vectorbd.com \ 716-544-1863/2645 /

wa2zkd@wb2psi.#wny.usa.na

GEnie: ZKD

Date: Fri, 28 Oct 1994 14:03:16 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: low power fm short range xmitter

In article <7514288667105@infodude.com> bafpa@infodude.com writes:

>
>IM>>I am interested in information on short range fm transmitters.
>
>IM>To my knowledge your desire is downright illegal.
>IM>try rec.radio.criminal!
>
>Not true.. There are some VERY short range Ramsey kits that transmit
>less than the FCC has a say over.. It's not iligeal, yet it's not legal.
>You can transmit on almost any freq. as long as it's under one tenth of
>a watt.(PLEASE don't quote me..) It's an FM transmitter meant for
>college radio stations, etc. You know those corny mikes you buy that you
>tunr on a radio nearby to 88.5 and your voice goes over the radio? Same
>deal.

You are attempting to describe operation under Part 15 rules. These operations are *not* outside FCC jurisdiction, it's just in a different part of the rules than amateur operation. The rules for Part 15 devices have recently been changed and the 100 milliwatt specification no longer applies. They now set field strength limits on the radiated signal, and that varies from one part of the spectrum to another according to a table in the rules. There are also frequencies where Part 15 operation is illegal, such as the aeronautical frequencies and the public service frequencies. Besides, intentional jamming is always illegal unless done by a government agency.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		emory!kd4nc!ke4zv!gary
534 Shannon Way		Guaranteed!		gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244				

Date: 28 Oct 94 05:03:00 GMT
From: ray.hoad@drig.COM (Ray Hoad)
Subject: orbs\$301.1of2.amsat

SB KEPS @ AMSAT \$ORBS-301.0

Orbital Elements 301.OSCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES
FROM WA5QGD FORT WORTH,TX October 28, 1994
BID: \$ORBS-301.0
TO ALL RADIO AMATEURS BT

Satellite: A0-10

Catalog number: 14129
Epoch time: 94289.48195497
Element set: 324
Inclination: 26.8030 deg
RA of node: 302.7931 deg
Eccentricity: 0.6025932
Arg of perigee: 219.6206 deg
Mean anomaly: 75.3706 deg
Mean motion: 2.05881540 rev/day
Decay rate: -3.48e-06 rev/day^2
Epoch rev: 8528
Checksum: 313

Satellite: U0-11

Catalog number: 14781
Epoch time: 94297.55816061
Element set: 748
Inclination: 97.7837 deg
RA of node: 306.2174 deg
Eccentricity: 0.0010935
Arg of perigee: 212.7582 deg
Mean anomaly: 147.2946 deg
Mean motion: 14.69258306 rev/day
Decay rate: 1.64e-06 rev/day^2
Epoch rev: 56930
Checksum: 335

Satellite: RS-10/11

Catalog number: 18129
Epoch time: 94296.82750190
Element set: 975
Inclination: 82.9278 deg
RA of node: 233.7494 deg
Eccentricity: 0.0012616
Arg of perigee: 32.3157 deg
Mean anomaly: 327.8768 deg
Mean motion: 13.72342956 rev/day
Decay rate: 3.0e-07 rev/day^2
Epoch rev: 36755
Checksum: 335

Satellite: A0-13

Catalog number: 19216

Epoch time: 94299.85253520

Element set: 988

Inclination: 57.6981 deg

RA of node: 223.6356 deg

Eccentricity: 0.7241616

Arg of perigee: 353.3055 deg

Mean anomaly: 0.7205 deg

Mean motion: 2.09728630 rev/day

Decay rate: $-6.09\text{e-}06$ rev/day²

Epoch rev: 4877

Checksum: 328

Satellite: F0-20

Catalog number: 20480

Epoch time: 94297.32778939

Element set: 742

Inclination: 99.0582 deg

RA of node: 64.8687 deg

Eccentricity: 0.0541320

Arg of perigee: 47.0318 deg

Mean anomaly: 317.4875 deg

Mean motion: 12.83227529 rev/day

Decay rate: $-2.1\text{e-}07$ rev/day²

Epoch rev: 22069

Checksum: 328

Satellite: A0-21

Catalog number: 21087

Epoch time: 94299.35102822

Element set: 532

Inclination: 82.9441 deg

RA of node: 45.6383 deg

Eccentricity: 0.0037001

Arg of perigee: 78.4057 deg

Mean anomaly: 282.1248 deg

Mean motion: 13.74546068 rev/day

Decay rate: $9.4\text{e-}07$ rev/day²

Epoch rev: 18760

Checksum: 303

Satellite: RS-12/13

Catalog number: 21089

Epoch time: 94296.90862597

Element set: 747

Inclination: 82.9198 deg

RA of node: 275.9827 deg
Eccentricity: 0.0030714
Arg of perigee: 109.1284 deg
Mean anomaly: 251.3205 deg
Mean motion: 13.74048290 rev/day
Decay rate: 3.5e-07 rev/day^2
Epoch rev: 18632
Checksum: 333

Satellite: ARSENE
Catalog number: 22654
Epoch time: 94295.77959688
Element set: 292
Inclination: 2.1080 deg
RA of node: 93.5730 deg
Eccentricity: 0.2910602
Arg of perigee: 194.4930 deg
Mean anomaly: 155.3915 deg
Mean motion: 1.42203489 rev/day
Decay rate: -1.00e-06 rev/day^2
Epoch rev: 301
Checksum: 285

/EX

SB KEPS @ AMSAT \$ORBS-301.D
Orbital Elements 301.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS
FROM WA5QGD FORT WORTH, TX October 28, 1994
BID: \$ORBS-301.D
TO ALL RADIO AMATEURS BT

Satellite: UO-14
Catalog number: 20437
Epoch time: 94297.26306677
Element set: 47
Inclination: 98.5853 deg
RA of node: 20.2521 deg
Eccentricity: 0.0010944
Arg of perigee: 168.2396 deg
Mean anomaly: 191.9042 deg
Mean motion: 14.29859371 rev/day
Decay rate: 2.5e-07 rev/day^2
Epoch rev: 24803
Checksum: 313

Satellite: A0-16
Catalog number: 20439

Epoch time: 94297.24379376
Element set: 845
Inclination: 98.5943 deg
RA of node: 21.6074 deg
Eccentricity: 0.0011259
Arg of perigee: 168.9779 deg
Mean anomaly: 191.1652 deg
Mean motion: 14.29913373 rev/day
Decay rate: 2.5e-07 rev/day^2
Epoch rev: 24804
Checksum: 340

Satellite: D0-17

Catalog number: 20440
Epoch time: 94297.74526568
Element set: 846
Inclination: 98.5953 deg
RA of node: 22.4711 deg
Eccentricity: 0.0011369
Arg of perigee: 167.0324 deg
Mean anomaly: 193.1147 deg
Mean motion: 14.30053610 rev/day
Decay rate: 3.6e-07 rev/day^2
Epoch rev: 24813
Checksum: 296

Satellite: W0-18

Catalog number: 20441
Epoch time: 94297.72295175
Element set: 849
Inclination: 98.5950 deg
RA of node: 22.4399 deg
Eccentricity: 0.0011831
Arg of perigee: 167.2575 deg
Mean anomaly: 192.8906 deg
Mean motion: 14.30027062 rev/day
Decay rate: 2.8e-07 rev/day^2
Epoch rev: 24813
Checksum: 321

Satellite: L0-19

Catalog number: 20442
Epoch time: 94296.71284624
Element set: 844
Inclination: 98.5959 deg
RA of node: 21.7332 deg
Eccentricity: 0.0012251
Arg of perigee: 169.9797 deg

Mean anomaly: 190.1635 deg
Mean motion: 14.30124958 rev/day
Decay rate: 2.5e-07 rev/day^2
Epoch rev: 24800
Checksum: 318

Satellite: U0-22

Catalog number: 21575
Epoch time: 94297.23560024
Element set: 551
Inclination: 98.4246 deg
RA of node: 9.0517 deg
Eccentricity: 0.0006856
Arg of perigee: 267.5444 deg
Mean anomaly: 92.4955 deg
Mean motion: 14.36937429 rev/day
Decay rate: 4.6e-07 rev/day^2
Epoch rev: 17161
Checksum: 319

Satellite: K0-23

Catalog number: 22077
Epoch time: 94298.23934878
Element set: 444
Inclination: 66.0877 deg
RA of node: 7.6884 deg
Eccentricity: 0.0015322
Arg of perigee: 255.9647 deg
Mean anomaly: 103.9671 deg
Mean motion: 12.86288415 rev/day
Decay rate: -3.7e-07 rev/day^2
Epoch rev: 10351
Checksum: 333

Satellite: A0-27

Catalog number: 22825
Epoch time: 94298.24553362
Element set: 343
Inclination: 98.6433 deg
RA of node: 12.6764 deg
Eccentricity: 0.0008311
Arg of perigee: 184.0983 deg
Mean anomaly: 176.0129 deg
Mean motion: 14.27638387 rev/day
Decay rate: 9.0e-08 rev/day^2
Epoch rev: 5624
Checksum: 318

Satellite: IO-26
Catalog number: 22826
Epoch time: 94298.21701205
Element set: 341
Inclination: 98.6417 deg
RA of node: 12.7030 deg
Eccentricity: 0.0008759
Arg of perigee: 186.3937 deg
Mean anomaly: 173.7130 deg
Mean motion: 14.27743790 rev/day
Decay rate: 4.0e-07 rev/day^2
Epoch rev: 5624
Checksum: 298

Satellite: KO-25
Catalog number: 22830
Epoch time: 94296.72685150
Element set: 349
Inclination: 98.5409 deg
RA of node: 7.1050 deg
Eccentricity: 0.0010220
Arg of perigee: 158.1055 deg
Mean anomaly: 202.0576 deg
Mean motion: 14.28067954 rev/day
Decay rate: 9.6e-07 rev/day^2
Epoch rev: 5604
Checksum: 289

Satellite: 22828
Catalog number: 22828
Epoch time: 94298.19750665
Element set: 320
Inclination: 98.6393 deg
RA of node: 12.7082 deg
Eccentricity: 0.0009972
Arg of perigee: 171.5956 deg
Mean anomaly: 188.5405 deg
Mean motion: 14.28070732 rev/day
Decay rate: 2.8e-07 rev/day^2
Epoch rev: 2433
Checksum: 336

/EX

Date: 28 Oct 94 05:05:00 GMT
From: ray.hoad@drig.COM (Ray Hoad)

Subject: orbs\$301.21.amsat

SB KEPS @ AMSAT \$ORBS-301.N
2Line Orbital Elements 301.AMSAT

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT
FROM WA5QGD FORT WORTH,TX October 28, 1994
BID: \$ORBS-301.N

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:

1 AAAAAU 00 0 0 BBBB.BBBBBBBB .CCCCCCC 00000-0 00000-0 0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGG HHH.HHHH III.IIII JJ.JJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

AO-10

1 14129U 83058B 94289.48195497 -.00000348 00000-0 10000-3 0 3242
2 14129 26.8030 302.7931 6025932 219.6206 75.3706 2.05881540 85280

UO-11

1 14781U 84021B 94297.55816061 .00000164 00000-0 35570-4 0 7486
2 14781 97.7837 306.2174 0010935 212.7582 147.2946 14.69258306569302

RS-10/11

1 18129U 87054A 94296.82750190 .00000030 00000-0 15809-4 0 9751
2 18129 82.9278 233.7494 0012616 32.3157 327.8768 13.72342956367557

AO-13

1 19216U 88051B 94299.85253520 -.00000609 00000-0 10000-4 0 9883
2 19216 57.6981 223.6356 7241616 353.3055 0.7205 2.09728630 48772

FO-20

1 20480U 90013C 94297.32778939 -.00000021 00000-0 19633-4 0 7422
2 20480 99.0582 64.8687 0541320 47.0318 317.4875 12.83227529220691

AO-21

1 21087U 91006A 94299.35102822 .00000094 00000-0 82657-4 0 5328
2 21087 82.9441 45.6383 0037001 78.4057 282.1248 13.74546068187602

RS-12/13

1 21089U 91007A 94296.90862597 .00000035 00000-0 21199-4 0 7478
2 21089 82.9198 275.9827 0030714 109.1284 251.3205 13.74048290186325

ARSENE

1 22654U 93031B 94295.77959688 -.00000100 00000-0 00000 0 0 2920
2 22654 2.1080 93.5730 2910602 194.4930 155.3915 1.42203489 3015

UO-14

1 20437U 90005B 94297.26306677 .00000025 00000-0 26654-4 0 476
2 20437 98.5853 20.2521 0010944 168.2396 191.9042 14.29859371248033

AO-16

1 20439U 90005D 94297.24379376 .00000025 00000-0 26807-4 0 8458
2 20439 98.5943 21.6074 0011259 168.9779 191.1652 14.29913373248048

DO-17

1	20440U	90005E	94297.74526568	.000000036	00000-0	30723-4	0	8467
2	20440	98.5953	22.4711 0011369	167.0324	193.1147	14.30053610248138		
W0-18								
1	20441U	90005F	94297.72295175	.000000028	00000-0	27940-4	0	8494
2	20441	98.5950	22.4399 0011831	167.2575	192.8906	14.30027062248133		
L0-19								
1	20442U	90005G	94296.71284624	.000000025	00000-0	26396-4	0	8446
2	20442	98.5959	21.7332 0012251	169.9797	190.1635	14.30124958248002		
U0-22								
1	21575U	91050B	94297.23560024	.000000046	00000-0	30056-4	0	5510
2	21575	98.4246	9.0517 0006856	267.5444	92.4955	14.36937429171612		
K0-23								
1	22077U	92052B	94298.23934878	-.000000037	00000-0	10000-3	0	4442
2	22077	66.0877	7.6884 0015322	255.9647	103.9671	12.86288415103510		
A0-27								
1	22825U	93061C	94298.24553362	.000000009	00000-0	21431-4	0	3437
2	22825	98.6433	12.6764 0008311	184.0983	176.0129	14.27638387 56248		
I0-26								
1	22826U	93061D	94298.21701205	.000000040	00000-0	33981-4	0	3412
2	22826	98.6417	12.7030 0008759	186.3937	173.7130	14.27743790 56249		
K0-25								
1	22830U	93061H	94296.72685150	.000000096	00000-0	55864-4	0	3494
2	22830	98.5409	7.1050 0010220	158.1055	202.0576	14.28067954 56048		
22828								
1	22828U	93061F	94298.19750665	.000000028	00000-0	28923-4	0	3208
2	22828	98.6393	12.7082 0009972	171.5956	188.5405	14.28070732 24330		
NOAA-9								
1	15427U	84123A	94299.60761643	.000000138	00000-0	97433-4	0	42
2	15427	99.0318	351.5296 0014438	206.3830	153.6599	14.13654253508829		
NOAA-10								
1	16969U	86073A	94299.75013933	.000000047	00000-0	38426-4	0	9054
2	16969	98.5071	304.7437 0012899	310.3456	49.6598	14.24911149421231		
MET-2/17								
1	18820U	88005A	94300.10863910	.000000069	00000-0	48391-4	0	4443
2	18820	82.5424	163.6579 0016116	165.6707	194.4913	13.84724620340612		
MET-3/2								
1	19336U	88064A	94297.23940385	.000000051	00000-0	10000-3	0	3436
2	19336	82.5423	232.3534 0016105	304.5772	55.3827	13.16970247300240		
NOAA-11								
1	19531U	88089A	94299.70664336	.000000018	00000-0	34593-4	0	8222
2	19531	99.1839	291.9170 0012297	120.4827	239.7559	14.13021539313718		
MET-2/18								
1	19851U	89018A	94300.34209995	.000000054	00000-0	35325-4	0	3453
2	19851	82.5201	38.5515 0012925	213.2890	146.7456	13.84374359285976		
MET-3/3								
1	20305U	89086A	94297.62869706	.000000044	00000-0	10000-3	0	1787
2	20305	82.5513	180.4883 0007253	347.0789	13.0129	13.04426571239770		
MET-2/19								

1 20670U 90057A 94297.47807724 .000000015 00000-0 38058-6 0 8452
 2 20670 82.5427 105.7863 0016376 139.4768 220.7615 13.84180585218508
 FY-1/2
 1 20788U 90081A 94299.70587837 .00001379 00000-0 94276-3 0 1455
 2 20788 98.8243 315.5914 0014618 13.2777 346.8855 14.01328549212120
 MET-2/20
 1 20826U 90086A 94297.24999429 .000000020 00000-0 44843-5 0 8540
 2 20826 82.5247 43.2875 0014936 47.5828 312.6591 13.83590640205603
 MET-3/4
 1 21232U 91030A 94296.45996378 .000000050 00000-0 10000-3 0 7520
 2 21232 82.5381 78.9093 0011993 223.6722 136.3444 13.16464498168233
 NOAA-12
 1 21263U 91032A 94299.73279613 .00000131 00000-0 78173-4 0 2404
 2 21263 98.6068 324.5496 0012078 213.5297 146.5118 14.22459597179206
 MET-3/5
 1 21655U 91056A 94297.22288644 .000000051 00000-0 10000-3 0 7502
 2 21655 82.5538 25.6052 0012117 234.3070 125.6926 13.16834019153447
 MET-2/21
 1 22782U 93055A 94297.86799956 .000000048 00000-0 30641-4 0 3537
 2 22782 82.5466 103.6815 0021161 221.4542 138.5018 13.83016923 58015
 POSAT
 1 22829U 93061G 94298.20539440 .000000034 00000-0 31172-4 0 3350
 2 22829 98.6401 12.7349 0009988 172.0963 188.0381 14.28045910 56252
 MIR
 1 16609U 86017A 94298.82217812 .00010022 00000-0 13979-3 0 8263
 2 16609 51.6470 252.5818 0002200 165.1869 194.9169 15.57568412496370
 HUBBLE
 1 20580U 90037B 94299.24775212 .000000646 00000-0 49133-4 0 5566
 2 20580 28.4689 114.0536 0006145 19.3197 340.7628 14.90704507 48964
 GRO
 1 21225U 91027B 94298.49507013 .00003607 00000-0 77443-4 0 1595
 2 21225 28.4612 47.1855 0003128 242.0150 118.0196 15.41463826 77061
 UARS
 1 21701U 91063B 94298.90887208 -.000000442 00000-0 -17703-4 0 6210
 2 21701 56.9873 355.2245 0004750 93.6917 266.4661 14.96247448170501
 /EX

Date: 28 Oct 94 05:04:00 GMT
 From: ray.hoad@drig.COM (Ray Hoad)
 Subject: orbs\$301.2of2.amsat

SB KEPS @ AMSAT \$ORBS-301.W
 Orbital Elements 301.WEATHER

HR AMSAT ORBITAL ELEMENTS FOR WEATHER SATELLITES
 FROM WA5QGD FORT WORTH,TX October 28, 1994

BID: \$ORBS-301.W
TO ALL RADIO AMATEURS BT

Satellite: NOAA-9
Catalog number: 15427
Epoch time: 94299.60761643
Element set: 4
Inclination: 99.0318 deg
RA of node: 351.5296 deg
Eccentricity: 0.0014438
Arg of perigee: 206.3830 deg
Mean anomaly: 153.6599 deg
Mean motion: 14.13654253 rev/day
Decay rate: 1.38e-06 rev/day^2
Epoch rev: 50882
Checksum: 318

Satellite: NOAA-10
Catalog number: 16969
Epoch time: 94299.75013933
Element set: 905
Inclination: 98.5071 deg
RA of node: 304.7437 deg
Eccentricity: 0.0012899
Arg of perigee: 310.3456 deg
Mean anomaly: 49.6598 deg
Mean motion: 14.24911149 rev/day
Decay rate: 4.7e-07 rev/day^2
Epoch rev: 42123
Checksum: 330

Satellite: MET-2/17
Catalog number: 18820
Epoch time: 94300.10863910
Element set: 444
Inclination: 82.5424 deg
RA of node: 163.6579 deg
Eccentricity: 0.0016116
Arg of perigee: 165.6707 deg
Mean anomaly: 194.4913 deg
Mean motion: 13.84724620 rev/day
Decay rate: 6.9e-07 rev/day^2
Epoch rev: 34061
Checksum: 302

Satellite: MET-3/2
Catalog number: 19336
Epoch time: 94297.23940385

Element set: 343
Inclination: 82.5423 deg
RA of node: 232.3534 deg
Eccentricity: 0.0016105
Arg of perigee: 304.5772 deg
Mean anomaly: 55.3827 deg
Mean motion: 13.16970247 rev/day
Decay rate: 5.1e-07 rev/day^2
Epoch rev: 30024
Checksum: 285

Satellite: NOAA-11
Catalog number: 19531
Epoch time: 94299.70664336
Element set: 822
Inclination: 99.1839 deg
RA of node: 291.9170 deg
Eccentricity: 0.0012297
Arg of perigee: 120.4827 deg
Mean anomaly: 239.7559 deg
Mean motion: 14.13021539 rev/day
Decay rate: 1.8e-07 rev/day^2
Epoch rev: 31371
Checksum: 318

Satellite: MET-2/18
Catalog number: 19851
Epoch time: 94300.34209995
Element set: 345
Inclination: 82.5201 deg
RA of node: 38.5515 deg
Eccentricity: 0.0012925
Arg of perigee: 213.2890 deg
Mean anomaly: 146.7456 deg
Mean motion: 13.84374359 rev/day
Decay rate: 5.4e-07 rev/day^2
Epoch rev: 28597
Checksum: 324

Satellite: MET-3/3
Catalog number: 20305
Epoch time: 94297.62869706
Element set: 178
Inclination: 82.5513 deg
RA of node: 180.4883 deg
Eccentricity: 0.0007253
Arg of perigee: 347.0789 deg
Mean anomaly: 13.0129 deg

Mean motion: 13.04426571 rev/day
Decay rate: 4.4e-07 rev/day^2
Epoch rev: 23977
Checksum: 314

Satellite: MET-2/19
Catalog number: 20670
Epoch time: 94297.47807724
Element set: 845
Inclination: 82.5427 deg
RA of node: 105.7863 deg
Eccentricity: 0.0016376
Arg of perigee: 139.4768 deg
Mean anomaly: 220.7615 deg
Mean motion: 13.84180585 rev/day
Decay rate: 1.5e-07 rev/day^2
Epoch rev: 21850
Checksum: 332

Satellite: FY-1/2
Catalog number: 20788
Epoch time: 94299.70587837
Element set: 145
Inclination: 98.8243 deg
RA of node: 315.5914 deg
Eccentricity: 0.0014618
Arg of perigee: 13.2777 deg
Mean anomaly: 346.8855 deg
Mean motion: 14.01328549 rev/day
Decay rate: 1.379e-05 rev/day^2
Epoch rev: 21212
Checksum: 338

Satellite: MET-2/20
Catalog number: 20826
Epoch time: 94297.24999429
Element set: 854
Inclination: 82.5247 deg
RA of node: 43.2875 deg
Eccentricity: 0.0014936
Arg of perigee: 47.5828 deg
Mean anomaly: 312.6591 deg
Mean motion: 13.83590640 rev/day
Decay rate: 2.0e-07 rev/day^2
Epoch rev: 20560
Checksum: 324

Satellite: MET-3/4

Catalog number: 21232
Epoch time: 94296.45996378
Element set: 752
Inclination: 82.5381 deg
RA of node: 78.9093 deg
Eccentricity: 0.0011993
Arg of perigee: 223.6722 deg
Mean anomaly: 136.3444 deg
Mean motion: 13.16464498 rev/day
Decay rate: 5.0e-07 rev/day^2
Epoch rev: 16823
Checksum: 329

Satellite: NOAA-12
Catalog number: 21263
Epoch time: 94299.73279613
Element set: 240
Inclination: 98.6068 deg
RA of node: 324.5496 deg
Eccentricity: 0.0012078
Arg of perigee: 213.5297 deg
Mean anomaly: 146.5118 deg
Mean motion: 14.22459597 rev/day
Decay rate: 1.31e-06 rev/day^2
Epoch rev: 17920
Checksum: 319

Satellite: MET-3/5
Catalog number: 21655
Epoch time: 94297.22288644
Element set: 750
Inclination: 82.5538 deg
RA of node: 25.6052 deg
Eccentricity: 0.0012117
Arg of perigee: 234.3070 deg
Mean anomaly: 125.6926 deg
Mean motion: 13.16834019 rev/day
Decay rate: 5.1e-07 rev/day^2
Epoch rev: 15344
Checksum: 289

Satellite: MET-2/21
Catalog number: 22782
Epoch time: 94297.86799956
Element set: 353
Inclination: 82.5466 deg
RA of node: 103.6815 deg
Eccentricity: 0.0021161

Arg of perigee: 221.4542 deg
Mean anomaly: 138.5018 deg
Mean motion: 13.83016923 rev/day
Decay rate: 4.8e-07 rev/day^2
Epoch rev: 5801
Checksum: 312

/EX

SB KEPS @ AMSAT \$ORBS-301.M
Orbital Elements 301.MISC

HR AMSAT ORBITAL ELEMENTS FOR MANNED AND MISCELLANEOUS SATELLITES
FROM WA5QGD FORT WORTH, TX October 28, 1994
BID: \$ORBS-301.M
TO ALL RADIO AMATEURS BT

Satellite: POSAT
Catalog number: 22829
Epoch time: 94298.20539440
Element set: 335
Inclination: 98.6401 deg
RA of node: 12.7349 deg
Eccentricity: 0.0009988
Arg of perigee: 172.0963 deg
Mean anomaly: 188.0381 deg
Mean motion: 14.28045910 rev/day
Decay rate: 3.4e-07 rev/day^2
Epoch rev: 5625
Checksum: 307

Satellite: MIR
Catalog number: 16609
Epoch time: 94298.82217812
Element set: 826
Inclination: 51.6470 deg
RA of node: 252.5818 deg
Eccentricity: 0.0002200
Arg of perigee: 165.1869 deg
Mean anomaly: 194.9169 deg
Mean motion: 15.57568412 rev/day
Decay rate: 1.0022e-04 rev/day^2
Epoch rev: 49637
Checksum: 319

Satellite: HUBBLE
Catalog number: 20580
Epoch time: 94299.24775212
Element set: 556

Inclination: 28.4689 deg
RA of node: 114.0536 deg
Eccentricity: 0.0006145
Arg of perigee: 19.3197 deg
Mean anomaly: 340.7628 deg
Mean motion: 14.90704507 rev/day
Decay rate: 6.46e-06 rev/day^2
Epoch rev: 4896
Checksum: 316

Satellite: GRO
Catalog number: 21225
Epoch time: 94298.49507013
Element set: 159
Inclination: 28.4612 deg
RA of node: 47.1855 deg
Eccentricity: 0.0003128
Arg of perigee: 242.0150 deg
Mean anomaly: 118.0196 deg
Mean motion: 15.41463826 rev/day
Decay rate: 3.607e-05 rev/day^2
Epoch rev: 7706
Checksum: 279

Satellite: UARS
Catalog number: 21701
Epoch time: 94298.90887208
Element set: 621
Inclination: 56.9873 deg
RA of node: 355.2245 deg
Eccentricity: 0.0004750
Arg of perigee: 93.6917 deg
Mean anomaly: 266.4661 deg
Mean motion: 14.96247448 rev/day
Decay rate: -4.42e-06 rev/day^2
Epoch rev: 17050
Checksum: 322

/EX

Date: 28 Oct 94 20:34:59 GMT
From: imotion@iu.NET (Howard Goldstein)
Subject: PGP-Signatur in Packet Radio

sjking@freenet3.scri.fsu.edu (Steven J. King) wrote:

>>Jeff Racz (jeffr@sa-htn.valmet.com) wrote:

>> bafpa@infodude.com wrote:

>> : IT>A ham is only allowed to use "open speech". But signing a message

>> : IT>with the program PGP might be ok.

>> You should refer to the section of the rules prohibiting amateurs from

>>using

>> codes and cyphers in communicating. I think that they pretty explicitly

>> exclude the use of PGP in amateur radio.

>That is what I was wondering myself when I started reading this

>thread. Would using PGP on packet messages be illegal under the "no

>cypher" rule even if the callsigns in the packet header are easily

>decodable? I would think so, eh?

The rule applies to the obscuration of message content. If the PGP signature is intended to validate the sender's signature, then it would seem by verifying the sender that it accomplishes the exact opposite purpose and would therefore not be a rules violation.

One thing, please do *NOT* ask the FCC (ref. 00 thread)

N2WX

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Howard Goldstein
InfoMotion, Inc.

--
imotion@iu.net
CIS:75006,702

Date: Fri, 28 Oct 1994 16:14:52 GMT
From: gdx@dcsl.ed.ac.uk (Graham Duthie)
Subject: US Repeater Logic

Hello,

I am involved with a repeater group looking into refurbishing some of the UHF repeaters here in Scotland (GB3PG, GB3GL, GB3ML, and GB3OH in particular). Part of this refurbishment would include replacing the logic which in some cases is still run from discrete transistors!!!

During the summer I was on holiday in the US and was very taken with the logic on some of the repeaters I heard. I am particularly interested in Voice ID.

Is there a standard voice ID logic? Most of the ones I heard seemed to be similar. Does it come in a kit, or are there construction instructions around, and where can I get hold of them.

All help is much appreciated. Thanks in advance.

Graham. GM7GEF

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*****
*   Graham Duthie - gdx@dcsl.ed.ac.uk           *   The University of Edinburgh   *
*                                                    *   Computer Science           *
*****
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Date: Fri, 28 Oct 1994 13:58:02 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Wayne Green, unfailing clear thinker? NOT!

In article <CyAEru.506@crdnns.crd.ge.com> adena@utica.ge.com writes:
>You won't find anything about anything other than Ham Radio in QST!

Hmm. I guess you missed the recent article on building a 160 kHz transmitter, or the one on a computer controlled fan, or perhaps the tutorial on military ALE systems. Granted QST has a rather narrow focus, but even in it's pages you'll find the occasional article that isn't strictly about ham radio. (I happen to think many hams are too narrow in their focus, and that a bit of information on the rest of the things happening in the world isn't amiss even in a ham journal. Amateur radio doesn't operate in a vacuum.)

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		emory!kd4nc!ke4zv!gary
534 Shannon Way		Guaranteed!		gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244				

Date: Fri, 28 Oct 1994 19:23:45 GMT
From: phb@syseng1.melpar.esys.com (Paul H. Bock)

References<19940ct26.125110.6229@ke4zv.atl.ga.us> <phb.783199163@melpar>,
<19940ct28.143528.5031@ke4zv.atl.ga.us>
Subject: Re: CW Learning: Going slow. : (

Gary, I suspect that we're very close to the point where I thought we might end up; we all have anecdotal and/or personal

experience which bears on the overall question about how fast can an operator copy this or that, but it seems to me that the synopsis of this date is that, since it involves the human brain, we may *never* fully understand the mechanisms and, in fact, the mechanisms may vary from individual to individual. What this suggests is that it is very dangerous for anyone to take a "blanket" approach, such as "after a certain speed, such-and-such happens" because it may happen to some, it may happen only partially, or it may not happen at all.

Probably the best we can do if we want to be really high-speed operators is (a) learn to touch-type accurately, (b) learn to copy behind, (c) learn to copy "subconsciously" (without "reading the text," as it were), and (d) hope for the best and accept whatever wall we hit. So, I'll stop thinking about "the mechanisms" and spend more time on developing "the skills." Actually, it's a lot like playing the banjo (which I've been doing one year longer than I've been a ham) in that I don't care *how* my brain learns to "hear" those 16th-notes and became able to distinguish licks and runs and not just hear them as a babble of notes, I only care that somehow it *does*.

But, you were right when you said that code isn't a language; it is just a representation, just as "sign language" is merely a visual representation of words and phrases. In fact, in some respects code is a lot like sign language when we use Q signals to represent entire thoughts, abbreviations for words, etc.

Have a great weekend, and thanks to everyone who participated in this thread!

73 DE K4MSG

Paul H. Bock, Jr.	Principal Systems Engineer
E-Systems/Melpar Division	pbock@melpar.esys.com

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(o _ Volvo SW_ o|

`(_)------(_)---'

Just like the Energizer bunny,
it's "still going!"

End of Info-Hams Digest V94 #1169
